

## Title (en)

Method for the detection of acid production by cariogenic bacteria

## Title (de)

Verfahren zum Nachweis der Säureproduktion durch kariogene Bakterien

## Title (fr)

Procédé de contrôle de la production d'acide à l'aide de bactéries cariogènes

## Publication

**EP 2410338 A1 20120125 (DE)**

## Application

**EP 10169983 A 20100719**

## Priority

EP 10169983 A 20100719

## Abstract (en)

The method comprises optionally concentrating microorganisms contained in a plaque or saliva sample, bringing the microorganisms into contact with a carbon source that is fermented to acid by a cariogenic bacteria, incubating the microorganisms and the carbon source under conditions that facilitate selective acid formation by the cariogenic bacteria, and determining a pH once within a period of 12 hours after addition of the carbon source. The semi-quantitative determination of the cariogenic bacteria in the sample is performed by comparing the determined pH with a reference value. The method comprises optionally concentrating microorganisms contained in a plaque or saliva sample, bringing the microorganisms into contact with a carbon source that is fermented to acid by a cariogenic bacteria, incubating the microorganisms and the carbon source under conditions that facilitate selective acid formation by the cariogenic bacteria, and determining a pH once within a period of 12 hours after addition of the carbon source. The semi-quantitative determination of the cariogenic bacteria in the sample is performed by comparing the determined pH with a reference value. The pH is determined with a pH electrode and is determined using a pH indicator that changes color on acid formation. The incubation step proceeds in the presence of antibiotics that do not significantly impair the growth and/or the acid formation of the cariogenic bacteria, and proceeds in the presence of antibiotics. The step of bringing the microorganisms and/or incubating the microorganisms proceeds in the presence of arginine. Independent claims are included for: (1) a test strip for a semi-quantitative determination of cariogenic bacteria in a plaque or saliva sample; and (2) a test kit for a semi-quantitative determination of cariogenic bacteria in a plaque or saliva sample.

## Abstract (de)

Die vorliegende Erfindung betrifft ein Verfahren zur semiquantitativen Bestimmung von kariogenen Bakterien in einer Speichel- und/oder Plaqueprobe, bei dem man die in einer Plaque-oder Speichelprobe enthaltenen Mikroorganismen mit einer C-Quelle in Kontakt bringt, die von den kariogenen Bakterien zu Säure fermentiert wird. Die Mikroorganismen werden anschlie-2end unter Bedingungen inkubiert, die eine selektive Säurebildung durch die kariogenen Bakterien ermöglichen. Die Säurebildung wird anschließend nachgewiesen, indem man mindestens einmal innerhalb eines Zeitraums von 12 Stunden nach Zugabe der C-Quelle den pH-Wert bestimmt, wobei die semiquantitative Bestimmung der kariogenen Bakterien in der Probe durch Vergleich des pH-Werts mit mindestens einem Referenzwert erfolgt. Die Erfindung stellt ferner Kits zur Durchführung solcher Verfahren bereit.

## IPC 8 full level

**G01N 33/84** (2006.01)

## CPC (source: EP US)

**C12Q 1/04** (2013.01 - EP US); **C12Q 1/06** (2013.01 - US)

## Citation (applicant)

MINAH; LÖSCHE, INFECTION AND IMMUNITY, vol. 17, 1977, pages 43 - 54

## Citation (search report)

- [X] US 2003113266 A1 20030619 - MATSUMOTO YUKO [JP]
- [A] EP 1253425 A2 20021030 - G C DENTAL IND CORP [JP]
- [A] EP 1972938 A1 20080924 - IVOCLAR VIVADENT [LI]
- [A] DAVID G.: "CRT bacteria Kariesisikotest", 27 November 2002 (2002-11-27), Schaan, Liechtenstein, XP002607748, Retrieved from the Internet <URL:http://www.google.de/url?q=http://www.ivoclarvivadent.com/zoolu-website/media/document/479/CRT%2Bbacteria&sa=U&ei=mhPuTK23H8GzhAfHuL3JDA&ved=0CA4QFjAA&usg=AFQjCNGxpUZmO\_Khd2UE\_OxbWoCxU8TyCQ> [retrieved on 20101101]

## Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

## Designated extension state (EPC)

BA ME RS

## DOCDB simple family (publication)

**EP 2410338 A1 20120125**; EP 2410339 A1 20120125; EP 2410339 B1 20130925; JP 2012024085 A 20120209; JP 5832801 B2 20151216; US 2012015398 A1 20120119; US 2014335559 A1 20141113; US 8765400 B2 20140701; US 9260739 B2 20160216

## DOCDB simple family (application)

**EP 10169983 A 20100719**; EP 11173695 A 20110712; JP 2011156746 A 20110715; US 201113181054 A 20110712; US 201414278247 A 20140515